What is claimed is:

1. A process for producing a modified polymer, comprising modifying a polymer having an active site of an organometal type in a molecule by reacting the site thereof with a hydrocarbyloxysilane compound and adding a condensation accelerator to the reaction system in the middle of the above reaction and/or after completion thereof.

2. The process for producing a modified polymer as described in claim 1, wherein the polymer described above is a polymer obtained by homopolymerizing a conjugated diene compound or copolymerizing a conjugated diene compound with other monomers.

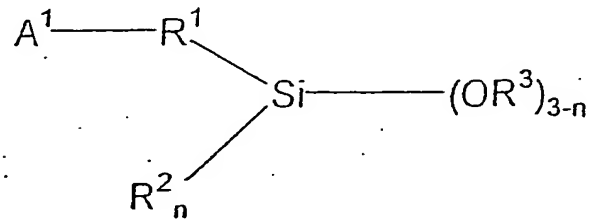
3. The process for producing a modified polymer as described in claim 1 or 2, wherein the metal in the active site described above is at least one selected from alkaline metals and alkaline earth metals.

4. The process for producing a modified polymer as described in claim 2 or 3, wherein the polymer described above is synthesized by anionic polymerization, and the other monomer described above is an aromatic vinyl compound.

5. The process for producing a modified polymer as described in claim 4, wherein the active site described above is present at an end of the polymer, and at least a part thereof stays in an active state.

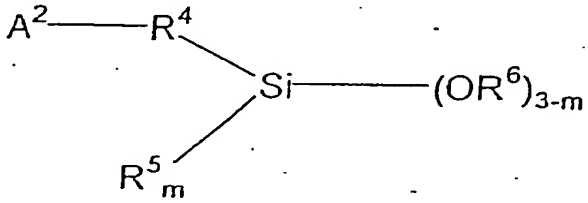
6. The process for producing a modified polymer as described in any of claims 1 to 5, wherein the hydrocarbyloxysilane compound described above used for the modification is at least one selected from a

hydrocarbyloxysilane compound represented by Formula (I) and/or a partial condensation product thereof:



$$\cdots (I)$$

(wherein A^1 represents a monovalent group having at least one functional group selected from (thio)epoxy, (thio)isocyanate, (thio)ketone, (thio)aldehyde, imine, amide, trihydrocarbyl isocyanurate, (thio)carboxylates, metal salts of (thio)carboxylates, carboxylic anhydrides, carboxylic halides and dihydrocarbyl carbonate; R^1 represents a single bond or a divalent inactive hydrocarbon group; R^2 and R^3 each represent independently a monovalent aliphatic hydrocarbon group having 1 to 20 carbon atoms or a monovalent aromatic hydrocarbon group having 6 to 18 carbon atoms; n is an integer of 0 to 2, and when a plurality of OR^3 is present, a plurality of OR^3 may be the same as or different from each other; and an active proton and an onium salt are not contained in the molecule),
a hydrocarbyloxysilane compound represented by Formula (II) and/or a partial condensation product thereof:



$$\cdots (II)$$

(wherein A^2 represents a monovalent group having at least one functional group selected from cyclic tertiary amine, non-cyclic tertiary amine, nitrile, pyridine, sulfide and multisulfide; R^4 represents a single bond or a divalent inactive hydrocarbon group; R^5 and R^6 each

represent independently a monovalent aliphatic hydrocarbon group having 1 to 20 carbon atoms or a monovalent aromatic hydrocarbon group having 6 to 18 carbon atoms; m is an integer of 0 to 2, and when a plurality of OR^6 is present, a plurality of OR^6 may be the same as or different from each other; and an active proton and an onium salt are not contained in the molecule), and

a hydrocarbyloxysilane compound represented by Formula (III) and/or a partial condensation product thereof:

$$R^7{}_p\text{-}Si(OR^8)_{4\text{-}p} \qquad \text{(III)}$$

(wherein R^7 and R^8 each represent independently a monovalent aliphatic hydrocarbon group having 1 to 20 carbon atoms or a monovalent aromatic hydrocarbon group having 6 to 18 carbon atoms; p is an integer of 0 to 2, and when a plurality of OR^8 is present, a plurality of OR^8 may be the same as or different from each other; and an active proton and an onium salt are not contained in the molecule).

7. The process for producing a modified polymer as described in claim 6, wherein the hydrocarbyloxysilane compound for modification is added to the polymer having an active site of an organometal type in a molecule in a stoichiometric amount or an excess amount thereover based on the above active site to react the above active site with the hydrocarbyloxysilane compound.

8. The process for producing a modified polymer as described in any of claims 1 to 7, wherein the condensation accelerator described above comprises combination of carboxylic acid salt of tin and/or titanium alkoxide with water.

9. The process for producing a modified polymer as described in claim 8, wherein the carboxylic acid salt of tin described above is a tin compound having an oxidation number of 2 represented by the following Formula (IV):

$$Sn(OCOR^9)_2 \qquad (IV)$$

(wherein R^9 is an alkyl group having 2 to 19 carbon atoms) or a tin compound having an oxidation number of 4 represented by the following Formula (V):

$$R^{10}{}_xSnA^3{}_yB^1{}_{4-y-x} \qquad (V)$$

(wherein R^{10} is an aliphatic hydrocarbon group having 1 to 30 carbon atoms; x is an integer of 1 to 3; y is 1 or 2; A^3 is a group selected from a carboxyl group having 2 to 30 carbon atoms, an α, γ-dionyl group having 5 to 20 carbon atoms, a hydrocarbyloxy group having 3 to 20 carbon atoms and a siloxy group tri-substituted with a hydrocarbyl group having 1 to 20 carbon atoms and/or a hydrocarbyloxy group having 1 to 20 carbon atoms; and B^1 is a hydroxyl group or halogen), and the titanium alkoxide described above is a titanium compound by the following Formula (VI):

$$A^4{}_zTiB^2{}_{4-z} \qquad (VI)$$

(wherein A^4 is a group selected from an alkoxy group having 3 to 20 carbon atoms and a siloxy group tri-substituted with an alkyl group having 1 to 20 carbon atoms and/or an alkoxy group having 1 to 20 carbon atoms; B^2 is an α, γ-dionyl group having 5 to 20 carbon atoms; and z is 2 or 4).

10. The process for producing a modified polymer as described in any of claims 2 to 9, wherein the conjugated diene compound described above is 1,3-butadiene or isoprene.

11. The process for producing a modified polymer as described in any of claims 4 to 10, wherein the aromatic vinyl compound described above is styrene.

12. A modified polymer obtained by the production process as described in any of claims 1 to 11.

13. The modified polymer as described claim 12, having a Mooney viscosity (ML_{1+4}/100°C) of 10 to 150.

14. A rubber composition comprising the modified polymer as described in claim 12 or 13.

15. A rubber composition prepared by adding a condensation accelerator in blending to a modified polymer obtained by reacting the active site of a polymer having an active site of an organometal type in a molecule with a hydrocarbyloxysilane compound.

16. The rubber composition as described claim 15, wherein the hydrocarbyloxysilane compound is at least one selected from the compounds represented by Formulas (I), (II) and (III) each described above.

17. The rubber composition as described claim 15, wherein the condensation accelerator is carboxylic acid salt of tin and/or titanium alkoxide.

18. The rubber composition as described claim 17, wherein the carboxylic acid salt of tin is a compound represented by Formulas (IV) or (V) each described above, and the titanium alkoxide is a compound represented by Formulas (VI) described above.

19. The rubber composition as described claim 14 or 15, comprising 100 parts by weight of (A) a rubber component containing at least 15 % by weight of the modified polymer described above and 10 to 100 parts by weight of (B) an inorganic filler and/or carbon black.

20. The rubber composition as described claim 19, comprising 10 to 100 parts by weight of silica as the inorganic filler described above.

21. A tire using the rubber composition as described in any of claims 14 to 20.